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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER DUNWOODY, AARON M				
ART UNIT 3679		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/700,484

**Applicant(s)**

SANTI ET AL.

**Examiner**

Aaron M. Dunwoody

**Art Unit**

3679

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 and 45-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

*Note, the Examiner has considered all claim limitations even if they are not copied verbatim in the rejections below.*

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/12/2008 has been entered.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5505502, Smith et al in view of 2282 Thiokol High Performance Polysulfid Joint Sealant document.

In regards to claim 1, Smith et al disclose a radially expanded (compared with an unexpanded tube) threaded tubular assembly, that has been radially expanded from

within (by oil pressure) after a connection of male and female elements (independent from the assembly) so as to define oilfield tubular goods, the assembly comprising:

a radially expandable male threaded element having external male threading and a first free end, the external male threading including a first incomplete thread and a first hooked thread, the first incomplete thread being located at least adjacent the first free end of the male threaded element;

a radially expandable female threaded element having internal female threading and a second free end, the internal female threading including a second incomplete thread and a second hooked thread, the second incomplete thread being located at least adjacent the second free end of the female threaded element, the female threaded element being threadedly engaged with the male threaded element. Smith et al does not disclose a greaseless elastomeric sealant. 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses a greaseless elastomeric sealant to provide a high performance chemical resistant flexible joint sealant (page 1, col. 1, paragraph 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an elastomeric sealant to provide a high performance chemical resistant flexible joint sealant, as taught by 2282 Thiokol High Performance Polysulfid Joint Sealant document.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitations of curing to an elastic modulus less than about 2.0 MPa (290 p.s.i) said cured greaseless elastomeric sealant remaining extended and adhered between said threaded elements while being

elongated between the external male threading and the internal female threading upon the assembly being radially expanded from within the male threaded member in the intended use are given little patentable weight.

In regards to claim 2, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the elastomeric sealant of being elongated at least about 45 percent after curing (intermediate step) while remaining extended between and adhered to each of the external male threading and the internal female threading and has an elastic modulus less than about 2.0 MPa (290 p.s.i.).

In regards to claim 3, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the elastomeric sealant is elongated at least about 100 percent after curing (intermediate step) while remaining extended between and adhered to each of the external male threading and the internal female threading and has an elastic modulus less than about 1.0 MPa (145 p.s.i.).

In regards to claim 4, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the elastomeric sealant is elongated at least about 400 percent after curing (intermediate step) while remaining extended between and adhered to each of the external male threading and the internal female threading and has an elastic modulus between about 0.5 MPa (73 p.s.i.) and about 2.0 MPa (290 p.s.i.).

In regards to claim 5, Smith et al in view of 2282 Thiokol High Performance Polysulfid Joint Sealant document disclose the elastomeric sealant is adhered to each of the external male threading and the internal female threading with an adhesion-to-rigid-substrate of at least 0.35 MPa (51 p.s.i.).

In regards to claim 6, Smith et al in view of 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the elastomeric sealant is adhered to each of the external male threading and the internal female threading with an adhesion-to-rigid-substrate of at least 0.7 MPa (102 p.s.i.).

In regards to claim 7, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the elastomeric sealant comprises a viscous paste or a liquid before curing that becomes a rubber-like solid after curing.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitation, the elastomeric sealant comprises a viscous paste or a liquid before curing that becomes a rubber-like solid after curing, is given little patentable weight.

In regards to claim 8, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the greaseless elastomeric sealant is capable of curing in the absence of oxygen and in the absence of humidity.

In regards to claim 9, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the greaseless elastomeric sealant is a polysulfide sealant or a polyurethane sealant.

In regards to claim 10, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the greaseless elastomeric sealant is a viscous paste or a liquid before curing and is a rubber-like solid after curing.

In regards to claim 11, Smith et al disclose the male threaded element and the female threaded element threadedly engage each other to form a flush joint connection.

In regards to claim 12, Smith et al disclose each of the first incomplete thread and the second incomplete thread has a perfect crest and an imperfect root.

In regards to claim 13, Smith et al disclose each of the first incomplete thread and the second incomplete thread is also a hooked thread.

In regards to claim 14, Smith et al disclose the first incomplete thread is the initial thread adjacent the first free end of the male threaded element, and the second incomplete thread is the initial thread adjacent the second free end of the female threaded element.

In regards to claim 15, Smith et al disclose at least one of the male threaded element and the female threaded element includes a torque shoulder.

In regards to claim 16, Smith et al disclose the torque shoulder is a reverse torque shoulder.

In regards to claim 45, Smith et al in view of 2282 Thiokol High Performance Polysulfid Joint Sealant document disclose an expandable sealed tubular joint comprising:

a pair of radially expandable elements each having threading at a free end thereof and coupled to one another, the threading including hooked incomplete threads being located at least adjacent the free ends; and

a sealing substance comprising a greaseless elastomeric sealant that (i) is capable of being elongated at least about 100 percent while remaining extended between and adhered to the threading of one radially expandable element and the threading of the other radially expandable element, (ii) is adhered to the threading with

an adhesion-to-rigid-substrate of at least 0.35 MPa (51 p.s.i.); and (iii) has an elastic modulus between about 0.5 MPa (73 p.s.i.) and about 2.0 MPa (290 p.s.i.),

wherein said greaseless elastomeric sealant is applied as a viscous paste or a liquid upon at least one threading, becomes a rubber-like solid after curing and then adheres and extends between the threading of one radially expandable element and the threading of the other radially expandable element, wherein after a radial expansion of the coupled pair of radially expandable elements the sealing substance remains extended between and adhered to the threading of one radially expandable element and the threading of the other radially expandable element.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, the limitation, said greaseless elastomeric sealant is applied as a viscous paste or a liquid upon at least one threading, becomes a rubber-like solid after curing and then adheres and extends between the threading of one radially expandable element and the threading of the other radially expandable element, wherein after a radial expansion of the coupled pair of radially expandable elements the sealing substance remains extended between and adhered to the threading of one radially expandable element and the threading of the other radially expandable element, is given little patentable weight.

In regards to claim 46, 2282 Thiokol High Performance Polysulfid Joint Sealant document discloses the sealing substance is a greaseless elastomeric sealant that (i) is capable of being elongated at least about 100 percent while remaining extended between and adhered to the threading of one radially expandable element and the



threading of the other radially expandable element, (ii) is adhered to the threading with an adhesion-to-rigid-substrate of at least 0.35 MPa (51 p.s.i.); and (iii) has an elastic modulus between about 0.5 MPa (73 p.s.i.) and about 2.0 MPa (290 p.s.i.).

Claims 17-34 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5505502, Smith et al in view of US patent 3822902, Maurer et al.

In regards to claim 17, Smith et al disclose a radially expanded (compared with an unexpanded tube) threaded tubular assembly, that has been radially expanded from within (by oil pressure) after a connection of male and female elements (independent from the assembly) so as to define oilfield tubular goods, the assembly comprising:

a radially expandable male threaded element having external male threading and a first free end, the external male threading including a first incomplete thread and a first hooked thread, the first incomplete thread being located at least adjacent the first free end of the male threaded element;

a radially expandable female threaded element having internal female threading and a second free end, the internal female threading including a second incomplete thread and a second hooked thread, the second incomplete thread being located at least adjacent the second free end of the female threaded element. Smith et al does not disclose a first and second metallic coating. Maurer et al teach a first and second coating to ensure that the threads are thoroughly lubricated to protect against galling (col. 4, lines 10-17). As Maurer et al relates to a connection to pipe joints, it would have been obvious to one having ordinary skill in the art at the time the invention was made

to provide a first and second coating to ensure that the threads are thoroughly lubricated to protect against galling, as taught by Maurer et al.

Note, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation, cold welding the first and second metallic coatings together characterized in that said first metallic coating remains cold welded to said second metallic coating upon the assembly being radially expanded from within the male threaded member in the intended use, is given little patentable weight.

In regards to claim 18, Maurer et al disclose each of the first metallic coating and the second metallic coating is a ductile metal and has a yielding tension less than about 100 MPa (14.5 k.s.i.).

In regards to claim 19, Maurer et al disclose each of the first metallic coating and the second metallic coating is a ductile metal and has a yielding tension less than about 20 MPa (2.9 k.s.i.).

In regards to claim 20, Maurer et al disclose each of the first metallic coating and the second metallic coating allows a principal shear strain of at least about 100 percent without fracturing and without fissure propagation

In regards to claim 21, Maurer et al disclose one of the first metallic coating and the second metallic coating is an alloy, and the other of the first metallic coating and the second metallic coating is an alloy or a pure metal.

In regards to claims 22-28 and 47, Smith in view of Maurer et al disclose the claimed invention except for each of the first metallic coating and the second metallic

coating being a pure metal contains 99.99 percent by weight of a single metal; and the single metal being selected from the group consisting of Copper, Aluminum, Lead, Zinc, Tin and Magnesium. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the first metallic coating and the second metallic coating with a pure metal contains 99.99 percent by weight of a single metal, and the single metal being selected from the group consisting of Copper, Aluminum, Lead, Zinc, Tin and Magnesium, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

In regards to claim 29, Smith et al disclose the radially expandable male threaded element and the radially expandable female threaded element threadedly engage each other to form a flush joint connection.

In regards to claim 30, Smith et al disclose each of the first incomplete thread and the second incomplete thread has a perfect crest and an imperfect root.

In regards to claim 31, Smith et al disclose each of the first incomplete thread and the second incomplete thread is also a hooked thread.

In regards to claim 32, Smith et al disclose the first incomplete thread is the initial thread adjacent the first free end of the male threaded element, and the second incomplete thread is the initial thread adjacent the second free end of the female threaded element.

In regards to claim 33, Smith et al disclose at least one of the male threaded element and the female threaded element includes a torque shoulder.

In regards to claim 34, Smith et al disclose the torque shoulder is a reverse torque shoulder.

***Response to Arguments***

Applicant's arguments filed 12/12/2008 have been fully considered but they are not persuasive.

Note, Applicant concedes that Polyspec, Thiokol 2282 has been discovered to have acceptable characteristics for the particular SET threads of the instant invention (see page 20 of amendment filed 12/12/2008).

Applicant argues that by claiming "a radially expanded threaded tubular assembly", it implies SET technology. The Examiner disagrees. However, if claiming "a radially expanded threaded tubular assembly" implies SET technology, the Examiner is concerned about the validity of allowed Divisional Application Serial Number 11/546,976; now US patent 7,464,449. Also, Examiner is questioning whether a Double Patenting rejection should be applied in the instant application, because Applicant claims "a radially expanded threaded tubular" completely encompasses the claim limitations of US patent 7,464,449. The divisional application clearly claims SET Technology, as recited below:

[illegible]

7. A method of forming a sealed tubular joint, said method comprising the steps of:

providing a first infinitely extendable relative member having external male threading and a first free end, the external male threading including a first incomplete thread and a first hooked thread, the first incomplete thread being located at least adjacent the first free end of the first relative member.

providing a second readily accessible relative number:  
 having internal female threading and a second fine end;  
 the internal female threading including a second incom-  
 plete thread and a second deeper thread, the second  
 incomplete thread being located at least adjacent the  
 second free end of the second tubular member;  
 coating the external male threading with a first material;  
 coating the first metallic thread being a first pure metal;  
 and adhering to the external male threading;  
 coating the exterior female threads with a second mate-  
 rial.

the coating the second metallic coating being a second non-ferrous metal coating, the second metallic coating being oriented to the lateral female threading, the coupling the first lateral member and the second lateral member, said coupling thereby providing a threaded connection, said coupling also providing the first metallic coating together with the second metallic coating, and said coupling expanding the threaded connection, wherein the solid metallic expansion of the threaded connection (i) the first metallic coating becomes adhered to the external female threading, (ii) the second metallic coating remains adhered to the internal female threading, and (iii) the first metallic coating and the second metallic coating

8. A method according to claim 7, wherein the threaded connection is radially expanded at least about five percent based on an inside diameter of the threaded connection.

10. A method according to claim 7, wherein (i) each of the first pure metal and the second pure metal constitutes 99 percent by weight of a single metal, selected from the group consisting of Copper, Aluminum, Lead, Zinc, Tin and Magnesium; (ii) the threaded component is a first pure metal; (iii) each of the first incomplete thread and the second incomplete thread has a perfor core and an imperfor core; (iv) each of the first macro-pore formed and the second macro-pore formed is also a second thread; and (v) at least one of the first *infinitor* member and the second *infinitor* member includes a reverse *infinitor* shoulder.

1. A method of forming a seeded tubular joint, said method comprising the steps of:  
providing a first radially expandable tubular member having external male threading and a first free end, the external male threading including a first incomplete thread and a first hooked thread, the first incomplete thread being located at least adjacent the first free end of the first tubular member;

For examination purposes, the Examiner will assume that SET Technology is not implied by Applicant when claiming a radially expanded threaded tubular assembly, SET Technology as claimed in US patent 7,464,449 is patentably distinct from the instant invention, and the Examiner will give the term its broadest reasonable interpretation: unless Applicant states differently.

Further, it is well established that a recitation with respect to the manner in which an apparatus is intended to be employed, *i.e.*, a functional limitation, does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963). Where the prior art reference is inherently capable of performing the function described in a functional

limitation, such functional limitation does not define the claimed apparatus over such prior art reference, regardless of whether the prior art reference explicitly discusses such capacity for performing the recited function. In re Ludtke, 441 F.2d 660, 169 USPQ 563 (CCPA 1971). In addition, where there is reason to believe that such functional limitation may be an inherent characteristic of the prior art reference, Applicant is required to prove that the subject matter shown in the prior art reference does not possess the characteristic relied upon. In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); In re King, 801 F.2d 1324, 1327, 231 USPQ 136, 138 (Fed. Cir. 1986); In re Ludtke, 441 F.2d at 664, 169 USPQ at 566 (CCPA 1971); In re Shreiber, \_\_\_ F.2d at \_\_\_, 44 USPQ2d 1429 (Fed. Cir. 1997).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an elastomeric sealant to provide a high performance chemical resistant flexible joint sealant, as taught by 2282 Thiokol High Performance Polysulfid Joint Sealant document.

Applicant argues that Smith et al '502 make use of a connector which walls are thicker than those of the pipe sections to which the pin and box parts are connected, for example, as by welding. The Examiner neither agrees nor disagrees. Applicant's claims fail to exclude the walls of Smith et al '502.

Further, the terms "comprising" and "comprising essentially" render the claim open for the inclusion of unspecified elements, the term "consisting of" closes the claim as to the inclusion of elements other than those recited in the claim, and the term "consisting essentially of" renders the claim open **only** for the inclusion of unspecified elements which do not materially affect the basic characteristics of the subject matter of the claim. Ex parte Davis 80 USPQ 448, 450 (PatBdApp 1948). Applicant's claims are open ended.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., spring back) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues Smith et al '502 do not disclose any incomplete threads adjacent a free end. The Examiner disagrees. In Figures 3 and 6, Smith et al '502 discloses incomplete threads adjacent a free end.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Dunwoody whose telephone number is 571-272-7080. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron M Dunwoody/  
Primary Examiner, Art Unit 3679

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